REMARKS

Favorable reconsideration of this application in view of the remarks to follow is respectfully requested. Since the present Response raises no new issues, and in event, places the application in better condition for consideration on appeal, entry thereof is respectfully requested.

Before addressing the specific grounds of rejection raised in the present Office Action, applicants have amended Claim 1 to positively recite that during the inventive method *a transition layer that is oxygen rich, carbon depleted or both oxygen rich and carbon depleted is formed and that the claimed transition layer provides improved interfacial strength between an upper first layer and a second layer*, which are also formed during the processing steps of the present application. Support for the above amendment to Claim 1 is found throughout the specification of the instant application. See, for example, paragraphs [0011], [0029] and [0036].

Since the above amendment to Claim 1 does not introduce any new matter into the specification of the instant application, entry thereof is respectfully requested. Applicants respectfully submit that the amendments to Claim 1 do not raise any new issues that would require further searching and/or consideration by the Examiner since the previous claimed processing steps, together with the description provided in the present application, indicated that such a transition layer was formed.

Claims 1-9 stand rejected under 35 U.S.C. § 102 (b) as allegedly anticipated by U.S. Patent No. 6,713,390 to M'Saad, et al. ("M'Saad, et al.").

Concerning the § 102 rejection, it is axiomatic that anticipation under § 102 requires that the prior art reference disclose each and every element of the claim to which it is applied. In re King, 801 F.2d, 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1996). Thus, there must be no

differences between the subject matter of the claim and the disclosure of the prior art reference. Stated another way, the reference must contain within its four corners adequate direction to practice the invention as claimed. The corollary of the rule is equally applicable: Absence from the applied reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 1571, 230 USPQ 81, 84 (Fed. Cir. 1986).

Applicants submit that the claimed method, as recited in Claims 1-9, is not anticipated by the disclosure of M'Saad, et al. Specifically, M'Saad, et al. do not disclose a method which includes, among the other steps, steps of exposing an upper first layer to a surface preparation plasma for a first period of time; and introducing precursors of a second layer to be deposited atop of the upper first layer for a second period of time, while the surface preparation plasma is active in the reactor thereby *forming a transition layer that is oxygen rich, carbon depleted or both oxygen rich and carbon depleted, said transition layer provides improved interfacial strength between said upper first layer and said second layer.*

M'Saad, et al. provide a method for fabricating a barrier layer on a substrate that may include a conductive feature using a gaseous mixture that includes a hydrocarbon-containing gas and a silicon-containing gas. The gas mixture is provided to a process chamber and is used to form a plasma for depositing the barrier layer. Argon, Ar, may be included with the gas mixture to help in gas dissociation. See Col 3, lines 35-39. Applicants observe that M'Saad, et al. do not disclose exposing said upper first layer to a surface preparation plasma for a first period of time and introducing precursors of a second layer to be deposited atop of the upper first layer for a second period of time, while the surface preparation plasma is active in the reactor thereby forming a transition layer that is oxygen rich, carbon depleted or both oxygen rich and carbon depleted, said transition layer provides improved interfacial strength between said upper first

layer and said second layer. These steps, which are preformed in the claimed invention, but not in M'Saad, et al., provide improved interfacial strength including adhesion and cohesion between two different layers.

Applicants observe that in M'Saad, et al. a barrier layer is formed which has a relatively high C content since the same has a low dielectric constant associated therewith. The adhesion between the barrier layer and the substrate is controlled by the dome temperature of the deposition reactor. See Col. 4, lines 58-61. Nowhere in M'Saad, et al. is there mention of the formation of a transition layer that improves interfacial strength, including adhesion, between the substrate and the barrier layer. As such, the claimed method of the present application is not anticipated by the disclosure of M'Saad, et al.

The foregoing remarks clearly demonstrate that the applied reference does not teach each and every aspect of the claimed invention, as required by King and Kloster Speedsteel; therefore the claims of the present application are not anticipated by M'Saad, et al. Applicants respectfully submit that the instant § 102 rejection has been obviated and withdrawal thereof is respectfully requested.

Thus, in view of the foregoing remarks, it is firmly believed that the present case is in condition for allowance, which action is earnestly solicited.

Respectfully submitted,

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